GenCore version 5.1.6

OM nucleic - nucleic search, using sw model

Run on: August 27, 2003, 23:58:28 ; Search time 309 Seconds
(without alignments)
8176.939 Million cell updates/sec

Title: US-09-308-829-1
Perfect score: 936
Sequence: 1 caaccttgactatttaaatg.....gagctttacctcctaattta 936

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 2552756 seqs, 1349719017 residues

Total number of hits satisfying chosen parameters: 5105512

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : N_Geneseq_19Jun03:*
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2: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
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24: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2002.DAT:*
25: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	936	100.0	936	19	AAV42209	DNA encoding strep
2	679.4	72.6	705	24	ABN69888	Streptococcus poly
3	621	66.3	621	24	AAD41385	Streptococcus pyog
4	617.8	66.0	621	24	AAD41386	Streptococcus pyog
5	356.4	38.1	432	24	AAD41370	Streptococcus pyog
6	200	21.4	696	24	ABN69774	Streptococcus poly
7	148.4	15.9	414	21	AAA47149	DNA encoding the m
8	139.8	14.9	702	24	ABN69723	Streptococcus poly
9	139.8	14.9	705	21	AAA47147	DNA encoding the m
10	105.6	11.3	210	24	ABN69924	Streptococcus poly
11	105.2	11.2	207	24	ABN70617	Streptococcus poly
12	93.2	10.0	702	21	AAA47146	DNA encoding the m
13	91	9.7	774	24	ABN70196	Streptococcus poly
c 14	70.8	7.6	11964	24	ABQ67026	Human angiogenesis
c 15	69.4	7.4	4985	24	ABQ75107	Anopheles gambiae
16	67.6	7.2	640681	24	ABA92787	Buchnera sp. genom
c 17	66	7.1	16750	22	AAS46314	Tumour suppressor
c 18	66	7.1	16750	24	ABL32521	Human immune syste
19	65.4	7.0	8056	25	ABZ10100	Haematopoietic cel
20	65.4	7.0	8056	25	ABZ10246	Haematopoietic cel
c 21	64.8	6.9	8056	25	ABZ10246	Haematopoietic cel
c 22	64.6	6.9	6106	22	AAS46430	Tumour suppressor
c 23	64.6	6.9	6106	24	ABK40032	Human chemically p
c 24	64.6	6.9	6106	24	ABL33473	Human immune syste
c 25	64.4	6.9	23683	24	ABL70482	Chemically treated
c 26	64.4	6.9	23683	24	ABL34623	Human metastasis a
c 27	64	6.8	6963	24	ABL32979	Human immune syste
c 28	63.4	6.8	15951	24	ABL70373	Chemically treated
c 29	63.4	6.8	15951	24	ABL33680	Human immune syste
c 30	63.4	6.8	15951	24	ABL34580	Human metastasis a
c 31	63.4	6.8	34548	24	ABL70603	Chemically treated
c 32	63.2	6.8	9155	24	ABL32462	Human immune syste
c 33	63	6.7	11745	24	ABK28332	DNA transcription
c 34	62.2	6.6	6881	24	ABL33380	Human immune syste
c 35	62.2	6.6	6881	24	ABK28249	DNA transcription
c 36	61.8	6.6	5930	24	ABL32517	Human immune syste
c 37	61.6	6.6	7892	24	ABK40056	Human chemically p
c 38	61.6	6.6	15373	24	ABL32467	Human immune syste
c 39	61.6	6.6	18683	24	ABL54334	Chemically treated
c 40	61.6	6.6	18683	24	ABL32313	Human immune syste
c 41	61.4	6.6	7143	24	ABL32982	Human immune syste
c 42	60.6	6.5	1511	13	AAQ28302	AmEPV tk DNA. Ams
c 43	60.6	6.5	1511	15	AAQ66798	AmEPV thymidine-ki
c 44	60.6	6.5	1511	19	AAV14508	AmEPV entomopoxvir
c 45	60.6	6.5	1511	20	AAZ10082	Amsacta moorei EPV

ALIGNMENTS

RESULT 1
AAV42209
ID AAV42209 standard; DNA; 936 BP.
XX
AC AAV42209;
XX
DT 24-SEP-1998 (first entry)
XX
DE DNA encoding streptococcal pyrogenic exotoxin type C (SPE-C).
XX
KW Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;
KW streptococcal toxic shock syndrome; mutant; vaccine; ss.
XX
OS Streptococcus pyrogenes.
XX
FH Key Location/Qualifiers
FT CDS 154..861
FT /*tag= a
FT /product= SPE-C
XX
PN WO9824910-A2.
XX
PD 11-JUN-1998.
XX
PF 05-DEC-1997; 97WO-US22125.
XX
PR 06-DEC-1996; 96US-0033251.
XX
PA (MINU) UNIV MINNESOTA.
XX
PI Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PM;

```
XX
DR   WPI; 1998-333329/29.
DR   P-PSDB; AAW62784.
XX
PT   Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
PT   for vaccines to protect from biological activity of wild type toxin
PT   e.g. to prevent or ameliorate streptococcal toxic shock syndrome
XX
PS   Disclosure; Fig 1; 55pp; English.
XX
CC   The present sequence encodes a Streptococcus pyrogenic exotoxin type C
CC   (SPE-C) toxin. Streptococcus pyrogenes is a pathogen of humans which can
CC   cause mild infections e.g. impetigo or severe acute diseases e.g.
CC   scarlet fever and STSS. SPE-C is thought to be associated with
CC   streptococcal toxic shock syndrome (STSS) and has several proposed
CC   biological activities, e.g. has been shown to block liver clearance of
CC   endotoxin and act as a "superantigen" i.e. induce T lymphocytes
CC   proliferation, resulting in abnormally high levels of circulating
CC   cytokines TNF- beta and IFN- gamma. The SPE-C protein is mutated (see
CC   AAW62785-88) to make it substantially non-lethal compared to wild-type
CC   SPE-C toxin. The mutant toxins are useful in vaccines which can be
CC   administered to animals (especially humans) to protect against at least
CC   one biological activity of a wild-type SPE-C. Such vaccines are
CC   especially useful to reduce symptoms associated with toxic shock such as
CC   STSS in humans.
XX
SQ   Sequence 936 BP; 364 A; 144 C; 127 G; 301 T; 0 other;

  Query Match           100.0%;  Score 936;  DB 19;  Length 936;
  Best Local Similarity  100.0%;  Pred. No. 2.9e-165;
  Matches  936;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 CAACCTTGACTATTTAAATGGAACTGCCACTCCTAAAAACTAAAATATAAATACATTTAT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 CAACCTTGACTATTTAAATGGAACTGCCACTCCTAAAAACTAAAATATAAATACATTTAT 60

Qy         61 AAAATTTCTAAATAAACAGAAATCTGATTTTTAACTACTTACTGCTATTTCATGTATTCT 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 AAAATTTCTAAATAAACAGAAATCTGATTTTTAACTACTTACTGCTATTTCATGTATTCT 120

Qy        121 CGTACGAGTAATACATTTAATTAAGGAGAAAAAATGAAAAAGATTAACATCATCAAAATA 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CGTACGAGTAATACATTTAATTAAGGAGAAAAAATGAAAAAGATTAACATCATCAAAATA 180

Qy        181 GTTTTCATAATTACAGTCATACTGATTTCTACTTATTTCACCTATCATCAAAGTGACTCT 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 GTTTTCATAATTACAGTCATACTGATTTCTACTTATTTCACCTATCATCAAAGTGACTCT 240

Qy        241 AAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACTCCTTAT 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 AAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACTCCTTAT 300

Qy        301 GATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGATACTCAA 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGATACTCAA 360

Qy        361 AAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCTCAAAAA 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 AAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCTCAAAAA 420

Qy        421 TTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCTCACACC 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 TTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCTCACACC 480

Qy        481 GGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTA 540

Qy        541 TTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTA 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 TTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTA 600

Qy        601 GAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGAT 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGAT 660

Qy        661 AATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACA 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 AATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACA 720

Qy        721 AAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCA 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        721 AAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCA 780

Qy        781 GATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTC 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        781 GATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTC 840

Qy        841 GATATTTATCTTGAAAAATAATTCATCATACACAAAAAACCGCCCAGAATAATCTGAGCG 900
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        841 GATATTTATCTTGAAAAATAATTCATCATACACAAAAAACCGCCCAGAATAATCTGAGCG 900

Qy        901 GTTTTGTCTTATCTCGGAGCTTTACCTCCTAATTTA 936
              |||||||||||||||||||||||||||||||||||
Db        901 GTTTTGTCTTATCTCGGAGCTTTACCTCCTAATTTA 936


RESULT 2
ABN69888
ID   ABN69888 standard; DNA; 705 BP.
XX
AC   ABN69888;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Streptococcus polynucleotide SEQ ID NO 7689.
XX
KW   Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW   group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW   antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS   Streptococcus pyogenes.
XX
PN   WO200234771-A2.
XX
PD   02-MAY-2002.
XX
PF   29-OCT-2001; 2001WO-GB04789.
XX
PR   27-OCT-2000; 2000GB-0026333.
PR   24-NOV-2000; 2000GB-0028727.
PR   07-MAR-2001; 2001GB-0005640.
XX
PA   (CHIR-) CHIRON SPA.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Telford J,  Masignani V,  Margarit Ros YI,  Grandi G,  Fraser C;
PI   Tettelin H;
XX
DR   WPI; 2002-352536/38.
DR   P-PSDB; ABP29257.
XX
PT   New Streptococcus protein for the treatment or prevention of infection
PT   or disease caused by Streptococcus bacteria, such as meningitis, and
PT   for detecting a compound that binds to the protein -
XX
PS   Claim 7; Page 3906; 4525pp; English.
XX
CC   The invention relates to a protein (ABP25413-ABP30895) from group B
CC   streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC   (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC   the specification. The proteins have antibacterial and antiinflammatory
CC   activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC   antibodies that bind (I) are used in the manufacture of medicaments for
CC   the treatment or prevention of infection or disease caused by
CC   Streptococcus bacteria, particularly S. agalactiae and S. pyogenes.
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CC   Nucleic acids encoding (I) are used to detect Streptococcus in a
CC   biological sample. (I) is used to determine whether a compound binds to
CC   (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC   used as a vaccine or diagnostic composition. The disease caused by
CC   Streptococcus that is prevented or treated may be meningitis. Nucleic
CC   acid encoding (I) may be used to recombinantly produce (I) and may be
CC   used in gene therapy. Antibodies to (I) are used for affinity
CC   chromatography, immunoassays, and distinguishing/identifying
CC   Streptococcus proteins.
XX
SQ   Sequence 705 BP; 280 A; 101 C; 100 G; 224 T; 0 other;

  Query Match            72.6%;  Score 679.4;  DB 24;  Length 705;
  Best Local Similarity  97.7%;  Pred. No. 1.5e-117;
  Matches  689;  Conservative    0;  Mismatches   16;  Indels    0;  Gaps    0;

Qy        154 ATGAAAAAGATTAACATCATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACT 213
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ATGAAAAAGATTAACATCATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACT 60

Qy        214 TATTTCACCTATCATCAAAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTA 273
                ||   |        ||||||||||||||||||||||||||||||||||||||||||||
Db         61 ATTTCACCTATCATCAAAAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTA 120

Qy        274 CTTTATGCATACACTATAACTCCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACG 333
              |||||||||||||||||||||||||||||||| ||||||||||||||||||||
Db        121 CTTTATGCATACACTATAACTCCTTATGATTATAAAAATTGCAGGGTAAATTTTTCAACG 180

Qy        334 ACACACACATTAAACATTGATACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCC 393
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 ACACACACATTAAACATTGATACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCC 240

Qy        394 GAAATGTCTTATGAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGA 453
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 GAAATGTCTTATGAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGA 300

Qy        454 TTATTTTATATTCTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCT 513
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 TTATTTTATATTCTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCT 360

Qy        514 CAAAATAATAAAGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAA 573
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 CAAAATAATAAAGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAA 420

Qy        574 CAGAACTTAAATAACAAGATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGAC 633
              |||||||||||||||| |||||||||||||| |||||||||||||||||||||||||||
Db        421 CAGAACTTAAATAACAAAATTATTCTAGAAAAAGATATCGTAACTTTCCAGGAAATTGAC 480

Qy        634 TTTAAAATCAGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTAT 693
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TTTAAAATCAGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTAT 540

Qy        694 GTAAGCGGCAGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTT 753
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 GTAAGCGGCAGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTT 600

Qy        754 GACTCACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATT 813
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GACTCACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATT 660

Qy        814 ATCAATATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAAAA 858
              |||||||||||||||||||||||||||||||||||||||||||||
Db        661 ATCAATATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAAAA 705


RESULT 3
AAD41385
ID   AAD41385 standard; DNA; 621 BP.
XX
AC   AAD41385;
XX
DT   30-OCT-2002  (first entry)
XX
DE   Streptococcus pyogenes pyrogenic exotoxin C (SPEC) wild-type DNA.
XX
KW   Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
KW   autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
KW   immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
KW   fungicide; cytostatic; gene; ds.
XX
OS   Streptococcus pyogenes.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..621
FT                   /*tag= a
FT                   /product= "SPEC wild-type protein"
FT                   /note= "No start codon"
FT                   /partial
XX
PN   WO200245739-A1.
XX
PD   13-JUN-2002.
XX
PF   04-DEC-2001; 2001WO-NZ00267.
XX
PR   04-DEC-2000; 2000US-251243P.
XX
PA   (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI   Fraser JD,  Nicholson MJ;
XX
DR   WPI; 2002-537539/57.
DR   P-PSDB; AAE41385.
XX
PT   Immunomodulator comprising an antigen-presenting-cell targeting
PT   molecule coupled to an immunomodulatory antigen, useful for treating
PT   e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
PT   allergy -
XX
PS   Example 3; Page 16; 47pp; English.
XX
CC   The present invention relates to a novel immunomodulator comprising an
CC   antigen-presenting-cell (APC) targeting molecule (which mimics a super-
CC   antigen but does not include a fully functional T-cell receptor binding
CC   site) coupled to an immunomodulatory antigen. The APC-targetting molecule
CC   is Streptococcus pyogenes pyrogenic exotoxin C (SPEC) or SMEZ or SEA. The
CC   immunomodulator is useful for the treatment of disorders which require
CC   induction or stimulation of the immune system, including viral, fungal,
CC   bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
CC   or pre-neoplastic transformation. The present sequence is S. pyogenes
CC   pyrogenic exotoxin C (SPEC) wild-type DNA. This sequence is used in the
CC   exemplification of the invention.
XX
SQ   Sequence 621 BP; 241 A; 87 C; 97 G; 196 T; 0 other;

  Query Match            66.3%;  Score 621;  DB 24;  Length 621;
  Best Local Similarity  100.0%;  Pred. No. 1.1e-106;
  Matches  621;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy        235 GACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACT 294
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACT 60

Qy        295 CCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGAT 354
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGAT 120

Qy        355 ACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCT 414
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCT 180

Qy        415 CAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCT 474
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCT 240

Qy        475 CACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCAT 534
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Db        241 CACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCAT 300

Qy        535 AAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATT 594
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 AAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATT 360

Qy        595 ATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTT 654
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 ATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTT 420

Qy        655 ATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATT 714
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 ATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATT 480

Qy        715 GGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACT 774
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACT 540

Qy        775 AGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGT 834
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 AGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGT 600

Qy        835 CATTTCGATATTTATCTTGAA 855
                |||||||||||||||||||
Db        601 CATTTCGATATTTATCTTGAA 621
```

RESULT 4
AAD41386
ID AAD41386 standard; DNA; 621 BP.
XX
AC AAD41386;
XX
DT 30-OCT-2002 (first entry)
XX
DE Streptococcus pyogenes pyrogenic exotoxin C (SPEC) DNA.
XX
KW Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
KW autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
KW immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
KW fungicide; cytostatic; ds.
XX
OS Streptococcus pyogenes.
XX
PN WO200245739-A1.
XX
PD 13-JUN-2002.
XX
PF 04-DEC-2001; 2001WO-NZ00267.
XX
PR 04-DEC-2000; 2000US-251243P.
XX
PA (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI Fraser JD, Nicholson MJ;
XX
DR WPI; 2002-537539/57.
XX
PT Immunomodulator comprising an antigen-presenting-cell targeting
PT molecule coupled to an immunomodulatory antigen, useful for treating
PT e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
PT allergy -
XX
PS Example 3; Page 16; 47pp; English.
XX
CC The present invention relates to a novel immunomodulator comprising an
CC antigen-presenting-cell (APC) targeting molecule (which mimics a super-
CC antigen but does not include a fully functional T-cell receptor binding
CC site) coupled to an immunomodulatory antigen. The APC-targetting molecule
CC is Streptococcus pyogenes pyrogenic exotoxin C (SPEC) or SMEZ or SEA. The
CC immunomodulator is useful for the treatment of disorders which require
CC induction or stimulation of the immune system, including viral, fungal,
CC bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
CC or pre-neoplastic transformation. The present sequence is S. pyogenes
CC pyrogenic exotoxin C (SPEC) DNA. This sequence is used in the
CC exemplification of the invention.
XX
SQ Sequence 621 BP; 243 A; 87 C; 95 G; 196 T; 0 other;

  Query Match   66.0%; Score 617.8; DB 24; Length 621;
  Best Local Similarity 99.7%; Pred. No. 4.2e-106;
  Matches 619; Conservative   0; Mismatches   2; Indels   0; Gaps   0;

```
Qy        235 GACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACT 294
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACT 60

Qy        295 CCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGAT 354
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGAT 120

Qy        355 ACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCT 414
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCT 180

Qy        415 CAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCT 474
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCT 240

Qy        475 CACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCAT 534
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 CACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCAT 300

Qy        535 AAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATT 594
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Db        301 AAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAAATT 360

Qy        595 ATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTT 654
                ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 ATTCTAGAAAAAGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTT 420

Qy        655 ATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATT 714
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 ATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATT 480

Qy        715 GGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACT 774
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACT 540

Qy        775 AGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGT 834
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 AGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGT 600

Qy        835 CATTTCGATATTTATCTTGAA 855
                |||||||||||||||||||
Db        601 CATTTCGATATTTATCTTGAA 621
```

RESULT 5
AAD41370
ID AAD41370 standard; DNA; 432 BP.
XX
AC AAD41370;
XX
DT 30-OCT-2002 (first entry)
XX
DE Streptococcus pyogenes pyrogenic exotoxin C (SPEC) truncated DNA.
XX
KW Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
KW autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
KW immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
KW fungicide; cytostatic; gene; ds.
XX
OS Streptococcus pyogenes.
XX

```
FH   Key             Location/Qualifiers
FT   CDS             1..432
FT                   /*tag=  a
FT                   /product= "SPEC truncated protein"
FT                   /note= "No start codon"
FT                   /partial
FT   misc_feature    64..75
FT                   /*tag=  b
FT                   /note= "Factor X region"
XX
PN   WO200245739-A1.
XX
PD   13-JUN-2002.
XX
PF   04-DEC-2001; 2001WO-NZ00267.
XX
PR   04-DEC-2000; 2000US-251243P.
XX
PA   (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI   Fraser JD,  Nicholson MJ;
XX
DR   WPI; 2002-537539/57.
DR   P-PSDB; AAE25363.
XX
PT   Immunomodulator comprising an antigen-presenting-cell targeting
PT   molecule coupled to an immunomodulatory antigen, useful for treating
PT   e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
PT   allergy -
XX
PS   Example 1; Page 9; 47pp; English.
XX
CC   The present invention relates to a novel immunomodulator comprising an
CC   antigen-presenting-cell (APC) targeting molecule (which mimics a super-
CC   antigen but does not include a fully functional T-cell receptor binding
CC   site) coupled to an immunomodulatory antigen. The APC-targetting molecule
CC   is Streptococcus pyogenes pyrogenic exotoxin C (SPEC) or SMEZ or SEA. The
CC   immunomodulator is useful for the treatment of disorders which require
CC   induction or stimulation of the immune system, including viral, fungal,
CC   bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
CC   or pre-neoplastic transformation. The present sequence is S. pyogenes
CC   pyrogenic exotoxin C (SPEC) truncated DNA. This sequence is used in the
CC   exemplification of the invention.
XX
SQ   Sequence 432 BP; 175 A; 63 C; 66 G; 128 T; 0 other;

  Query Match             38.1%;  Score 356.4;  DB 24;  Length 432;
  Best Local Similarity   98.4%;  Pred. No. 1.7e-57;
  Matches  360;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy        496 GGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTATTGGGAAATCTATTT 555
              | |||   ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         67 GAAGGTCGTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTATTGGGAAATCTATTT 126

Qy        556 ATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTAGAAAAGGATATCGTA 615
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||
Db        127 ATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTAGAAAAGGATACCGTA 186

Qy        616 ACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGATAATTATAAAATTTAT 675
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        187 ACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGATAATTATAAAATTTAT 246

Qy        676 GACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACAAAAGATGGGAAACAT 735
              |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db        247 GACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACAAAAGATGGAAAACAT 306

Qy        736 GAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAA 795
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        307 GAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAA 366

Qy        796 TATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTCGATATTTATCTTGAA 855
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        367 TATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTCGATATTTATCTTGAA 426

Qy        856 AAATAA 861
              ||||||
Db        427 AAATAA 432


RESULT 6
ABN69774
ID   ABN69774 standard; DNA; 696 BP.
XX
AC   ABN69774;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Streptococcus polynucleotide SEQ ID NO 7461.
XX
KW   Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW   group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW   antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS   Streptococcus pyogenes.
XX
PN   WO200234771-A2.
XX
PD   02-MAY-2002.
XX
PF   29-OCT-2001; 2001WO-GB04789.
XX
PR   27-OCT-2000; 2000GB-0026333.
PR   24-NOV-2000; 2000GB-0028727.
PR   07-MAR-2001; 2001GB-0005640.
XX
PA   (CHIR-) CHIRON SPA.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Telford J,  Masignani V,  Margarit Ros YI,  Grandi G,  Fraser C;
PI   Tettelin H;
XX
DR   WPI; 2002-352536/38.
DR   P-PSDB; ABP29143.
XX
PT   New Streptococcus protein for the treatment or prevention of infection
PT   or disease caused by Streptococcus bacteria, such as meningitis, and
PT   for detecting a compound that binds to the protein -
XX
PS   Claim 7; Page 3891; 4525pp; English.
XX
CC   The invention relates to a protein (ABP25413-ABP30895) from group B
CC   streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC   (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC   the specification. The proteins have antibacterial and antiinflammatory
CC   activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC   antibodies that bind (I) are used in the manufacture of medicaments for
CC   the treatment or prevention of infection or disease caused by
CC   Streptococcus bacteria, particularly S. agalactiae and S. pyogenes.
CC   Nucleic acids encoding (I) are used to detect Streptococcus in a
CC   biological sample. (I) is used to determine whether a compound binds to
CC   (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC   used as a vaccine or diagnostic composition. The disease caused by
CC   Streptococcus that is prevented or treated may be meningitis. Nucleic
CC   acid encoding (I) may be used to recombinantly produce (I) and may be
CC   used in gene therapy. Antibodies to (I) are used for affinity
CC   chromatography, immunoassays, and distinguishing/identifying
CC   Streptococcus proteins.
XX
SQ   Sequence 696 BP; 288 A; 88 C; 96 G; 224 T; 0 other;

  Query Match             21.4%;  Score 200;  DB 24;  Length 696;
  Best Local Similarity   58.9%;  Pred. No. 2.1e-28;
  Matches  363;  Conservative    0;  Mismatches  250;  Indels    3;  Gaps    1;

Qy        240 TAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTATAACTCCTTA 299
              ||   || | |||    | |||||     | |||  ||| ||||||   || |  ||
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Db         72 TAGTGAAAATATTAAAGACGTTAAGCTACAATTAAATTACGCATACGAAATCATACCAGT 131

Qy        300 TGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACATTGATACTCA 359
Db        132 AGATTATACGAATTGTAATATTGATTACTTGACTACTCATGATTTTTATATTGATATTTC 191

Qy        360 AAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCTCAAAA 419
Db        192 CAGTTATAAAAAGAAAAATTTTTCAGTTGATTCTGAGGTCGAGAGCTATATTACAACAAA 251

Qy        420 ATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCTCACAC 479
Db        252 GTTTACGAAAAATCAAAAAGTAAATATTTTTGGTCTTCCGTACATATTTACTCGTTATGA 311

Qy        480 CGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAA---TAATAAAGTAAATCATAA 536
Db        312 TGTTTATTATATATATGGTGGGGTTACACCATCAGTAAACAGTAATTCGGAAAATAGTAA 371

Qy        537 ATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTAT 596
Db        372 AATTGTAGGTAATTTACTAATAGATGGAGTCCAGCAAAAAACACTAATAAATCCCATAAA 431

Qy        597 TCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTAT 656
Db        432 AATAGATAAACCTATTTTTACGATTCAAGAATTTGACTTCAAAATCAGACAATATCTTAT 491

Qy        657 GGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGG 716
Db        492 GCAAACATACAAAATTTATGATCCTAATTCTCCATACATAAAAGGGCAATTAGAAATTGC 551

Qy        717 CACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAG 776
Db        552 GATCAATGGCAATAAACATGAAAGTTTTAACTTATATGATGCAACCTCATCTAGTACAAG 611

Qy        777 ATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCA 836
Db        612 GAGTGATATTTTTAAAAAATATAAAGACAATAAGACTATAAATATGAAAGATTTCAGCCA 671

Qy        837 TTTCGATATTTATCTT 852
Db        672 TTTTGATATTTACCTT 687
```

RESULT 7
AAA47149

```
ID   AAA47149 standard; DNA; 414 BP.
XX
AC   AAA47149;
XX
DT   03-OCT-2000  (first entry)
XX
DE   DNA encoding the mature SPE-J superantigen protein.
XX
KW   Sperantigen; SMEZ-2; SPE-G; SPE-H; SPE-J; Streptococcal disease;
KW   Kawasaki syndrome; T cell activation; cancer therapy; ss.
XX
OS   Streptococcus pyogenes.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..414
FT                   /*tag= a
FT                   /product= "SPE-J"
XX
PN   WO200039159-A1.
XX
PD   06-JUL-2000.
XX
PF   24-DEC-1999;   99WO-NZ00228.
XX
PR   24-DEC-1998;   98NZ-0333589.
XX
PA   (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI   Fraser JD,  Proft T;
XX
DR   WPI; 2000-452370/39.
DR   P-PSDB; AAY93744.
XX
PT   Novel superantigens from streptococcus pyogenes useful for genotyping
PT   streptococcus pyogenes clones expressing SMEZ-2 and for diagnosing a
PT   Kawasaki syndrome  -
XX
PS   Claim 13; Fig 5; 72pp; English.
XX
CC   The present sequence encodes the SPE-J superantigen protein. The
CC   specification describes superantigen proteins SMEZ-2, SPE-G, SPE-H
CC   and SPE-J. The superantigen polynucleotides and polypeptides are
CC   used for subtyping Streptococci. They are also used for diagnosing
CC   Streptococcal disease. The superantigens are used in diagnosis of
CC   disease such as Kawasaki syndrome. They are also useful to recruit
CC   and activate T cells in a relatively non-specific fashion since
CC   they bind a large number of T cell receptor molecules by binding to the
CC   Vbeta domain. Superantigen constructs are useful in cancer therapy.
XX
SQ   Sequence 414 BP; 170 A; 59 C; 55 G; 130 T; 0 other;
```

Query Match 15.9%; Score 148.4; DB 21; Length 414;
Best Local Similarity 62.1%; Pred. No. 8e-19;
Matches 252; Conservative 0; Mismatches 151; Indels 3; Gaps 1;

```
Qy        460 TATATTCTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAA- 518
Db          7 TACATATTTACTCGTTATGATGTTTATTATATATATGGTGGGGTTACACCATCAGTAAAC 66

Qy        519 --TAATAAAGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAG 576
Db         67 AGTAATTCGGAAAATAGTAAAATTGTAGGTAATTTACTAATAGATGGAGTCCAGCAAAAA 126

Qy        577 AACTTAAATAACAAGATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTT 636
Db        127 ACACTAATAAATCCCATAAAAATAGATAAACCTATTTTTACGATTCAAGAATTTGACTTC 186

Qy        637 AAAATCAGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTA 696
Db        187 AAAATCAGACAATATCTTATGCAAACATACAAAATTTATGATCCTAATTCTCCATACATA 246

Qy        697 AGCGGCAGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGAC 756
Db        247 AAAGGGCAATTAGAAATTGCGATCAATGGCAATAAACATGAAAGTTTTAACTTATATGAT 306

Qy        757 TCACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATC 816
Db        307 GCAACCTCATCTAGTACAAGGAGTGATATTTTTAAAAAATATAAAGACAATAAGACTATA 366

Qy        817 AATATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAAAATAAT 862
Db        367 AATATGAAAGATTTCAGCCATTTTGATATTTACCTTTGGACTAAAT 412
```

RESULT 8
ABN69723

```
ID   ABN69723 standard; DNA; 702 BP.
XX
AC   ABN69723;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Streptococcus polynucleotide SEQ ID NO 7359.
XX
KW   Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW   group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW   antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS   Streptococcus pyogenes.
XX
PN   WO200234771-A2.
```

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XX
PD   02-MAY-2002.
XX
PF   29-OCT-2001; 2001WO-GB04789.
XX
PR   27-OCT-2000; 2000GB-0026333.
PR   24-NOV-2000; 2000GB-0028727.
PR   07-MAR-2001; 2001GB-0005640.
XX
PA   (CHIR-) CHIRON SPA.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Telford J,  Masignani V,  Margarit Ros YI,  Grandi G,  Fraser C;
PI   Tettelin H;
XX
DR   WPI; 2002-352536/38.
DR   P-PSDB; ABP29092.
XX
PT   New Streptococcus protein for the treatment or prevention of infection
PT   or disease caused by Streptococcus bacteria, such as meningitis, and
PT   for detecting a compound that binds to the protein -
XX
PS   Claim 7; Page 3886; 4525pp; English.
XX
CC   The invention relates to a protein (ABP25413-ABP30895) from group B
CC   streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC   (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC   the specification. The proteins have antibacterial and antiinflammatory
CC   activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC   antibodies that bind (I) are used in the manufacture of medicaments for
CC   the treatment or prevention of infection or disease caused by
CC   Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes.
CC   Nucleic acids encoding (I) are used to detect Streptococcus in a
CC   biological sample. (I) is used to determine whether a compound binds to
CC   (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC   used as a vaccine or diagnostic composition. The disease caused by
CC   Streptococcus that is prevented or treated may be meningitis. Nucleic
CC   acid encoding (I) may be used to recombinantly produce (I) and may be
CC   used in gene therapy. Antibodies to (I) are used for affinity
CC   chromatography, immunoassays, and distinguishing/identifying
CC   Streptococcus proteins.
XX
SQ   Sequence 702 BP; 261 A; 83 C; 113 G; 245 T; 0 other;

  Query Match             14.9%;  Score 139.8;  DB 24;  Length 702;
  Best Local Similarity   53.9%;  Pred. No. 3.3e-17;
  Matches  376;  Conservative    0;  Mismatches  312;  Indels    9;  Gaps    4;

Qy        169 ATCATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACTTATTTCACCTATCAT 228
              || |  | ||   |||| | |||||   |  ||     |  |  |   |       |||
Db          1 ATGAAAACAAACATTTTGACAATTATCATATTATCATGTGTTTTTAGCTATGGAAGTCAA 60

Qy        229 CAAAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACT 288
                | | |  |  |  || | |    || | |||||  ||||   | ||| || | |
Db         61 TTAGCTTATGCAGATGAAAATTTAAAAGATTTAAAAAGAAGTTTAAGATTTGCCTATAAT 120

Qy        289 ATAACTCCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAAC 348
              || || || |  |||||| || ||       |   .|||   || ||| | |   || |
Db        121 ATTACCCCATGCGATTATGAAAATGTAGAAATTGCATTTGTTACTACAAATAGCATACAT 180

Qy        349 ATTGATACTCAAAAATATAGAGGGAAAGACTA---TTATATTAGTTCCGAAATGTCTTAT 405
              ||| ||||| || || | |||  | ||.       |||| ||  |||     | ||||
Db        181 ATTAATACTAAACAAAAAAGATCGGAATGTATTCTTTATGTTGATTCTATTGTATCTTTA 240

Qy        406 GAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATT 465
              |      || |  | |||| |  ||  ||| | || ||||||||||  |   ||||| |
Db        241 GGCATTACTGATCAGTTTATAAAAGGGGATAAGGTCGATGTTTTTGGTCTCCCTTATAAT 300

Qy        466 CTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATT-ACGCCTGCTCAAAATAATAA 524
               ||    | |     |  ||  | || ||||| || |||         || ||  ||  |
Db        301 TTTTCCCCACCTTATGTAGATAATATTTATGGTGGTATTGTAAAACATTCGAATCAAGGA 360

Qy        525 AGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAA 584
              | ||||||||| |    |||    |  | |  ||   |   | |    |||  |  |
Db        361 AATAAATCATTACAGTTTGTAGGAATTTTAAATCAAGATGGGAAAGAAACTTATTTGCCC 420

Qy        585 TAACAAG--ATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATC 642
              |   | |   ||    || ||||| |      | ||||| |||||| |||| ||||||||
Db        421 TCTGAGGCTGTTCGCATAAAAAAGAAACAGTTTACTTTACAGGAATTTGATTTTAAAATA 480

Qy        643 AGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGC 702
              |||||||  || ||||| || || || || |||||  |    || | ||||  |   ||
Db        481 AGAAAATTTCTAATGGAAAAATACAATATCTATGATTCGGAATCGCGTTATACATCGGGG 540

Qy        703 AGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCA 762
              ||  |     |||  || |||||| | |||||| |  || | || |||||| |
Db        541 AGCCTTTTCCTTGCTACTAAAGATAGTAAACATTATGAAGTTGATTTATTTAATAAGGAT 600

Qy        763 AATGAAGGGACTAGATCAGA---TATTTTTGCAAAATATAAAGATAATAGAATTATCAAT 819
              || |       ||   |||   | | ||| ||  ||||||||||||  ||| | |||
Db        601 GATAAGCTTTTAAGTCGAGACAGTTTCTTTAAAAGGTATAAAGATAATAAGATTTTTAAT 660

Qy        820 ATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAA 856
              |   | |  ||||||||||| ||||| ||  |  |||
Db        661 AGTGAAGAAATTAGTCATTTTGATATCTACTTAAAAA 697


RESULT 9
AAA47147
ID   AAA47147 standard; DNA; 705 BP.
XX
AC   AAA47147;
XX
DT   03-OCT-2000  (first entry)
XX
DE   DNA encoding the mature SPE-G superantigen protein.
XX
KW   Sperantigen; SMEZ-2; SPE-G; SPE-H; SPE-J; Streptococcal disease;
KW   Kawasaki syndrome; T cell activation; cancer therapy; ss.
XX
OS   Streptococcus pyogenes.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..705
FT                   /*tag=  a
FT                   /product= "SPE-G"
XX
PN   WO200039159-A1.
XX
PD   06-JUL-2000.
XX
PF   24-DEC-1999;   99WO-NZ00228.
XX
PR   24-DEC-1998;   98NZ-0333589.
XX
PA   (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI   Fraser JD,  Proft T;
XX
DR   WPI; 2000-452370/39.
DR   P-PSDB; AAY93742.
XX
PT   Novel superantigens from streptococcus pyogenes useful for genotyping
PT   streptococcus pyogenes clones expressing SMEZ-2 and for diagnosing a
PT   Kawasaki syndrome  -
XX
PS   Claim 9; Fig 3; 72pp; English.
XX
CC   The present sequence encodes the SPE-G superantigen protein. The
CC   specification describes superantigen proteins SMEZ-2, SPE-G, SPE-H
CC   and SPE-J. The superantigen polynucleotides and polypeptides are
CC   used for subtyping Streptococci. They are also used for diagnosing
CC   Streptococcal disease. The superantigens are used in diagnosis of
CC   disease such as Kawasaki syndrome. They are also useful to recruit
CC   and activate T cells in a relatively non-specific fashion since
CC   they bind a large number of T cell receptor molecules by binding to the
```

```
CC   Vbeta domain. Superantigen constructs are useful in cancer therapy.
XX
SQ   Sequence 705 BP; 262 A; 83 C; 114 G; 246 T; 0 other;

  Query Match             14.9%;  Score 139.8;  DB 21;  Length 705;
  Best Local Similarity   53.9%;  Pred. No. 3.3e-17;
  Matches  376;  Conservative    0;  Mismatches  312;  Indels    9;  Gaps    4;

Qy        169 ATCATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACTTATTTCACCTATCAT 228
              || |  | ||   |||| | |||||   |  ||     |  |  |   |        |||
Db          1 ATGAAAACAAACATTTTGACAATTATCATATTATCATGTGTTTTTAGCTATGGAAGTCAA 60

Qy        229 CAAAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACT 288
              |  | |  |  | ||  |  |     || | |||||  ||||  | ||| || | |
Db         61 TTAGCTTATGCAGATGAAAATTTAAAAGATTTAAAAAGAAGTTTAAGATTTGCCTATAAT 120

Qy        289 ATAACTCCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAAC 348
              || || || |  |||||| || ||       |    |||   || ||| | |   || |
Db        121 ATTACCCCATGCGATTATGAAAATGTAGAAATTGCATTTGTTACTACAAATAGCATACAT 180

Qy        349 ATTGATACTCAAAAATATAGAGGGAAAGACTA---TTATATTAGTTCCGAAATGTCTTAT 405
              ||| ||||| || || | |||  | ||        |||| ||  |||     | ||||
Db        181 ATTAATACTAAACAAAAAAGATCGGAATGTATTCTTTATGTTGATTCTATTGTATCTTTA 240

Qy        406 GAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATATT 465
              |     || |  | |||| |  ||  ||| | || ||||||||||  |   ||||| |
Db        241 GGCATTACTGATCAGTTTATAAAAGGGGATAAGGTCGATGTTTTTGGTCTCCCTTATAAT 300

Qy        466 CTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATT-ACGCCTGCTCAAAATAATAA 524
               ||    | |      |  ||  | || ||||| || |||          || ||  ||  |
Db        301 TTTTCCCCACCTTATGTAGATAATATTTATGGTGGTATTGTAAAACATTCGAATCAAGGA 360

Qy        525 AGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAA 584
              | |||||||| |    |||    |  | |  ||   |   | |   |||  |  |
Db        361 AATAAATCATTACAGTTTGTAGGAATTTTAAATCAAGATGGGAAAGAAACTTATTTGCCC 420

Qy        585 TAACAAG--ATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATC 642
              |  | |   ||    || ||||| |     | ||||| |||||| |||| ||||||||
Db        421 TCTGAGGCTGTTCGCATAAAAAAGAAACAGTTTACTTTACAGGAATTTGATTTTAAAATA 480

Qy        643 AGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGC 702
              |||||||  || ||||| || || || || |||||  |    || | ||||  |   ||
Db        481 AGAAAATTTCTAATGGAAAAATACAATATCTATGATTCGGAATCGCGTTATACATCGGGG 540

Qy        703 AGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCA 762
              ||  |     |||  || |||||| | |||||| |  || | || |||||| |
Db        541 AGCCTTTTCCTTGCTACTAAAGATAGTAAACATTATGAAGTTGATTTATTTAATAAGGAT 600

Qy        763 AATGAAGGGACTAGATCAGA---TATTTTTGCAAAATATAAAGATAATAGAATTATCAAT 819
               || |      ||   |||   | | |||  ||  ||||||||||||  ||| | |||
Db        601 GATAAGCTTTTAAGTCGAGACAGTTTCTTTAAAAGGTATAAAGATAATAAGATTTTTAAT 660

Qy        820 ATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAA 856
              |   |  | ||||||||||| ||||| ||  |  |||
Db        661 AGTGAAGAAATTAGTCATTTTGATATCTACTTAAAAA 697


RESULT 10
ABN69924
ID   ABN69924 standard; DNA; 210 BP.
XX
AC   ABN69924;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Streptococcus polynucleotide SEQ ID NO 7761.
XX
KW   Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW   group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW   antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS   Streptococcus pyogenes.
XX
PN   WO200234771-A2.
XX
PD   02-MAY-2002.
XX
PF   29-OCT-2001; 2001WO-GB04789.
XX
PR   27-OCT-2000; 2000GB-0026333.
PR   24-NOV-2000; 2000GB-0028727.
PR   07-MAR-2001; 2001GB-0005640.
XX
PA   (CHIR-) CHIRON SPA.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Telford J,  Masignani V,  Margarit Ros YI,  Grandi G,  Fraser C;
PI   Tettelin H;
XX
DR   WPI; 2002-352536/38.
DR   P-PSDB; ABP29293.
XX
PT   New Streptococcus protein for the treatment or prevention of infection
PT   or disease caused by Streptococcus bacteria, such as meningitis, and
PT   for detecting a compound that binds to the protein -
XX
PS   Claim 7; Page 3912; 4525pp; English.
XX
CC   The invention relates to a protein (ABP25413-ABP30895) from group B
CC   streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC   (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC   the specification. The proteins have antibacterial and antiinflammatory
CC   activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC   antibodies that bind (I) are used in the manufacture of medicaments for
CC   the treatment or prevention of infection or disease caused by
CC   Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes.
CC   Nucleic acids encoding (I) are used to detect Streptococcus in a
CC   biological sample. (I) is used to determine whether a compound binds to
CC   (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC   used as a vaccine or diagnostic composition. The disease caused by
CC   Streptococcus that is prevented or treated may be meningitis. Nucleic
CC   acid encoding (I) may be used to recombinantly produce (I) and may be
CC   used in gene therapy. Antibodies to (I) are used for affinity
CC   chromatography, immunoassays, and distinguishing/identifying
CC   Streptococcus proteins.
XX
SQ   Sequence 210 BP; 91 A; 26 C; 31 G; 62 T; 0 other;

  Query Match             11.3%;  Score 105.6;  DB 24;  Length 210;
  Best Local Similarity   70.5%;  Pred. No. 7e-11;
  Matches  141;  Conservative    0;  Mismatches   59;  Indels    0;  Gaps    0;

Qy        653 TTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAA 712
              | |||||     |  |||||||||    |||  ||||||||| |||| || ||  | ||||
Db          2 TGATGGAATCAAAAGAAATTTATTTGACTAAGTCTCCTTATATAAGGGGGAGTTTAGAAA 61

Qy        713 TTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGA 772
              ||  ||  ||| || ||||||||||  ||||  | |||| |||| ||  |    |  | |
Db         62 TTCACAGTAAAAATAGGAAACATGAAAAAATCAATTTATATGACGCAAAACCCAATAGCA 121

Qy        773 CTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTA 832
              | ||||| ||| | |||  ||||||||||||| ||||  | ||| ||||||||  | || |
Db        122 CCAGATCTGATGTCTTTAAAAAATATAAAGACAATAAGACTATAAATATGAAAGATTTCA 181

Qy        833 GTCATTTCGATATTTATCTT 852
              | ||||| ||||||||||||
Db        182 GCCATTTTGATATTTATCTT 201


RESULT 11
ABN70617
ID   ABN70617 standard; DNA; 207 BP.
XX
AC   ABN70617;
XX
DT   01-JUL-2002  (first entry)
```

XX
DE Streptococcus polynucleotide SEQ ID NO 9147.
XX
KW Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS Streptococcus pyogenes.
XX
PN WO200234771-A2.
XX
PD 02-MAY-2002.
XX
PF 29-OCT-2001; 2001WO-GB04789.
XX
PR 27-OCT-2000; 2000GB-0026333.
PR 24-NOV-2000; 2000GB-0028727.
PR 07-MAR-2001; 2001GB-0005640.
XX
PA (CHIR-) CHIRON SPA.
PA (GENO-) INST GENOMIC RES.
XX
PI Telford J, Masignani V, Margarit Ros YI, Grandi G, Fraser C;
PI Tettelin H;
XX
DR WPI; 2002-352536/38.
DR P-PSDB; ABP29986.
XX
PT New Streptococcus protein for the treatment or prevention of infection
PT or disease caused by Streptococcus bacteria, such as meningitis, and
PT for detecting a compound that binds to the protein -
XX
PS Claim 7; Page 4037; 4525pp; English.
XX
CC The invention relates to a protein (ABP25413-ABP30895) from group B
CC streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC the specification. The proteins have antibacterial and antiinflammatory
CC activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC antibodies that bind (I) are used in the manufacture of medicaments for
CC the treatment or prevention of infection or disease caused by
CC Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes.
CC Nucleic acids encoding (I) are used to detect Streptococcus in a
CC biological sample. (I) is used to determine whether a compound binds to
CC (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC used as a vaccine or diagnostic composition. The disease caused by
CC Streptococcus that is prevented or treated may be meningitis. Nucleic
CC acid encoding (I) may be used to recombinantly produce (I) and may be
CC used in gene therapy. Antibodies to (I) are used for affinity
CC chromatography, immunoassays, and distinguishing/identifying
CC Streptococcus proteins.
XX
SQ Sequence 207 BP; 91 A; 26 C; 30 G; 60 T; 0 other;

Query Match 11.2%; Score 105.2; DB 24; Length 207;
Best Local Similarity 70.7%; Pred. No. 8.3e-11;
Matches 140; Conservative 0; Mismatches 58; Indels 0; Gaps 0;

```
Qy      655 ATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATT 714
            |||||     |  ||||||||    |||  ||||||||| |||| || ||  | ||||||
Db        1 ATGGAATCAAAAGAAATTTATTTGACTAAGTCTCCTTATATAAGGGGGAGTTTAGAAATT 60

Qy      715 GGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACT 774
              ||  ||| || ||||||||||  ||||  | |||| |||| ||  |    |  | ||
Db       61 CACAGTAAAAATAGGAAACATGAAAAAATCAATTTATATGACGCAAAACCCAATAGCACC 120

Qy      775 AGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGT 834
            ||||| ||| | |||  |||||||||||| ||||  | ||| |||||||||  | || ||
Db      121 AGATCTGATGTCTTTAAAAAATATAAAGACAATAAGACTATAAATATGAAAGATTTCAGC 180

Qy      835 CATTTCGATATTTATCTT 852
            ||||| ||||||||||||
Db      181 CATTTTGATATTTATCTT 198
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RESULT 12
AAA47146
ID AAA47146 standard; DNA; 702 BP.
XX
AC AAA47146;
XX
DT 03-OCT-2000 (first entry)
XX
DE DNA encoding the mature SMEZ-2 superantigen protein.
XX
KW Sperantigen; SMEZ-2; SPE-G; SPE-H; SPE-J; Streptococcal disease;
KW Kawasaki syndrome; T cell activation; cancer therapy; ss.
XX
OS Streptococcus pyogenes.
XX
FH Key Location/Qualifiers
FT CDS 1..702
FT /*tag= a
FT /product= "SMEZ-2"
XX
PN WO200039159-A1.
XX
PD 06-JUL-2000.
XX
PF 24-DEC-1999; 99WO-NZ00228.
XX
PR 24-DEC-1998; 98NZ-0333589.
XX
PA (AUCK-) AUCKLAND UNISERVICES LTD.
XX
PI Fraser JD, Proft T;
XX
DR WPI; 2000-452370/39.
DR P-PSDB; AAY93741.
XX
PT Novel superantigens from streptococcus pyogenes useful for genotyping
PT streptococcus pyogenes clones expressing SMEZ-2 and for diagnosing a
PT Kawasaki syndrome -
XX
PS Claim 7; Fig 2; 72pp; English.
XX
CC The present sequence encodes the SMEZ-2 superantigen protein. The
CC specification describes superantigen proteins SMEZ-2, SPE-G, SPE-H
CC and SPE-J. The superantigen polynucleotides and polypeptides are
CC used for subtyping Streptococci. They are also used for diagnosing
CC Streptococcal disease. The superantigens are used in diagnosis of
CC disease such as Kawasaki syndrome. They are also useful to recruit
CC and activate T cells in a relatively non-specific fashion since
CC they bind a large number of T cell receptor molecules by binding to the
CC Vbeta domain. Superantigen constructs are useful in cancer therapy.
XX
SQ Sequence 702 BP; 268 A; 103 C; 100 G; 231 T; 0 other;

Query Match 10.0%; Score 93.2; DB 21; Length 702;
Best Local Similarity 49.5%; Pred. No. 1.5e-08;
Matches 307; Conservative 0; Mismatches 298; Indels 15; Gaps 2;

```
Qy      257 ATGTTAAAAGTGATTTACTTTATGCATACACTATAACTCCTTATGATTATAAAGATTGCA 316
            ||  |||      | ||    ||   || | ||  | |   |||| |||  ||||
Db       83 ATAATAATTCCCTTCTAAGGAATATCTATAGTACGATTGTATATGAATATTCAGATATAG 142

Qy      317 GGGTAAATTTTTCAACGACACACACATTAAACATTGATACTCAAAAATATAGA---GGGA 373
              |  |||||  ||| |  || |  |||   | | | |   |   |   ||||   | |
Db      143 TAATTGATTTTAAAACCAGTCATAACTTAGTGACTAAGAAACTTGATGTTAGAGATGCTA 202

Qy      374 AAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCTCAAAAATTTAAACGAGATG 433
             ||| |  | |||||  |||||||||    |  | ||  |  |  | ||||||   |  |
Db      203 GAGATTTCTTTATTAACTCCGAAATGGACGAATATGCAGCCAATGATTTTAAAACTGGAG 262

Qy      434 ATCATGTAGATGTT-----------TTTGGATTATTTTATATTCTTAATTCTCACACCG 481
            || |  ||| |||             ||||  |     ||| |    ||     |   |
```

```
Db        263 ATAAAATAGCTGTGTTCTCCGTCCCATTTGATTGGAACTATTTATCAAAAGGAAAAGTCA 322

Qy        482 GTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTAT 541

Db        323 CAGCATATACCTATGGTGGAATAACACCCTACCAAAAAACTTCAATACCTAAAAATATCC 382

Qy        542 TGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTAG 601

Db        383 CTGTTAATTTATGGATTAATGGAAAGCAGATCTCTGTTCCTTACAACGAAATATCAACTA 442

Qy        602 AAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGATA 661

Db        443 ACAAAACAACAGTTACAGCTCAAGAAATTGATCTAAAGGTTAGAAAATTTTTAATAGCAC 502

Qy        662 ATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACAA 721

Db        503 AACATCAATTATATTCTTCTGGTTCTAGCTACAAAAGTGGTAGACTGGTTTTTCATACAA 562

Qy        722 AAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCAG 781

Db        563 ATGATAATTCAGATAAATATTCTTTCGATCTTTTCTATGTAGGATATAGAGATAAAGAAA 622

Qy        782 ATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTCG 841

Db        623 GTATCTTTAAAGTATACAAAGACAATAAATCTTTCAATATAGATAAAATTGGGCATTTAG 682

Qy        842 ATATTTATCTTGAAAAATAA 861

Db        683 ATATAGAAATTGACTCCTAA 702


RESULT 13
ABN70196
ID   ABN70196 standard; DNA; 774 BP.
XX
AC   ABN70196;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Streptococcus polynucleotide SEQ ID NO 8305.
XX
KW   Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;
KW   group A streptococcus; Streptococcus pyogenes; antibacterial; gene;
KW   antiinflammatory; infection; vaccine; meningitis; gene therapy; ds.
XX
OS   Streptococcus pyogenes.
XX
PN   WO200234771-A2.
XX
PD   02-MAY-2002.
XX
PF   29-OCT-2001; 2001WO-GB04789.
XX
PR   27-OCT-2000; 2000GB-0026333.
PR   24-NOV-2000; 2000GB-0028727.
PR   07-MAR-2001; 2001GB-0005640.
XX
PA   (CHIR-) CHIRON SPA.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Telford J,  Masignani V,  Margarit Ros YI,  Grandi G,  Fraser C;
PI   Tettelin H;
XX
DR   WPI; 2002-352536/38.
DR   P-PSDB; ABP29565.
XX
PT   New Streptococcus protein for the treatment or prevention of infection
PT   or disease caused by Streptococcus bacteria, such as meningitis, and
PT   for detecting a compound that binds to the protein -
XX
PS   Claim 7; Page 3946; 4525pp; English.
XX
CC   The invention relates to a protein (ABP25413-ABP30895) from group B
CC   streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS
CC   (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in
CC   the specification. The proteins have antibacterial and antiinflammatory
CC   activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and
CC   antibodies that bind (I) are used in the manufacture of medicaments for
CC   the treatment or prevention of infection or disease caused by
CC   Streptococcus bacteria, particularly S. agalactiae and S. pyogenes.
CC   Nucleic acids encoding (I) are used to detect Streptococcus in a
CC   biological sample. (I) is used to determine whether a compound binds to
CC   (I). A composition comprising (I) or a nucleic acid encoding (I), may be
CC   used as a vaccine or diagnostic composition. The disease caused by
CC   Streptococcus that is prevented or treated may be meningitis. Nucleic
CC   acid encoding (I) may be used to recombinantly produce (I) and may be
CC   used in gene therapy. Antibodies to (I) are used for affinity
CC   chromatography, immunoassays, and distinguishing/identifying
CC   Streptococcus proteins.
XX
SQ   Sequence 774 BP; 295 A; 104 C; 111 G; 264 T; 0 other;

  Query Match             9.7%;  Score 91;  DB 24;  Length 774;
  Best Local Similarity   49.4%;  Pred. No. 3.9e-08;
  Matches  303;  Conservative    0;  Mismatches  295;  Indels   15;  Gaps    2;

Qy        257 ATGTTAAAAGTGATTTACTTTATGCATACACTATAACTCCTTATGATTATAAAGATTGCA 316

Db        158 ATAATAATTCCCTTCTAAGGAATATCTATAGTACGATTGTATATGAATATTCAGATACAG 217

Qy        317 GGGTAAATTTTTCAACGACACACACATTAAACATTGATACTCAAAAATATAGA---GGGA 373

Db        218 TAATTGATTTTAAAACCAGTCATAACTTAGTGACTAAGAAACTTGATGTTAGAGATGCTA 277

Qy        374 AAGACTATTATATTAGTTCCGAAATGTCTTATGAGGCCTCTCAAAAATTTAAACGAGATG 433

Db        278 GAGATTTTTTTATTAACTCCGAAATGGATGAATATGCAGCCAATGATTTTAAAGATGGAG 337

Qy        434 ATCATGTAGATGTTTTTGGATTATTTTATATTCTTAATTCT----------CACACCG 481

Db        338 ATAAAATAGCTATGTTCTCCGTCCCATTTGATTGGAACTACTTGTCAGAAGGAAAAGTCA 397

Qy        482 GTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATAAAGTAAATCATAAATTAT 541

Db        398 TAGCATATACCTATGGTGGAATGACGCCTTATCAAGAAGAACCAATGTCTAAAAATATCC 457

Qy        542 TGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAAATAACAAGATTATTCTAG 601

Db        458 CTGTTAATTTATGGATTAATAGAAAGCAGATTCCTGTCCCCTATAATCAAATATCAACTA 517

Qy        602 AAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCAGAAAATACCTTATGGATA 661

Db        518 ACAAAACAACAGTTACAGCTCAAGAAATTGATCTAAAGGTTAGAAAATTTTTAATATCAC 577

Qy        662 ATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCAGAATCGAAATTGGCACAA 721

Db        578 AACATCAATTATATTCTTCTGGTTCTAGCTACAAAAGTGGTAAATTAGTTTTTCATACAA 637

Qy        722 AAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAAATGAAGGGACTAGATCAG 781

Db        638 ATGATAATTCAGATAAATATTCTCTCGATCTTTTCTATGTAGGATATAGAGATAAAGAAA 697

Qy        782 ATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGAAGAACTTTAGTCATTTCG 841

Db        698 GTATTTTTAAAGTATACAAAGACAATAAATCTTTCAATATAGATAAAATTGGGCATTTAG 757

Qy        842 ATATTTATCTTGA 854

Db        758 ATATAGAAATTGA 770


RESULT 14
ABQ67026/c
ID   ABQ67026 standard; DNA; 11964 BP.
XX
AC   ABQ67026;
```

XX
DT 28-AUG-2002 (first entry)
XX
DE Human angiogenesis associated polynucleotide SEQ ID NO 56.
XX
KW Human; angiogenesis; methylation; eye disease; glaucoma; tumour;
KW inflammation; rheumatoid arthritis; diabetic retinopathy; antiulcerds;
KW macular degeneration; inflammatory bowel disease; Crohn's disease;
KW antirheumatic; antiarthritic; antidiabetic; antipsoriatic;
KW antiarteriosclerotic; ds.
XX
OS Homo sapiens.
XX
PN WO200246454-A2.
XX
PD 13-JUN-2002.
XX
PF 06-DEC-2001; 2001WO-EP14320.
XX
PR 06-DEC-2000; 2000DE-1061338.
XX
PA (EPIG-) EPIGENOMICS AG.
XX
PI Schacht O;
XX
DR WPI; 2002-500450/53.
XX
PT New nucleic acid fragments from chemically treated
PT angiogenesis-associated genes, useful for determining methylation
PT status, e.g. in diagnosis or treatment of cancer -
XX
PS Claim 1; SEQ ID NO 56; 41pp + Sequence Listing; German.
XX
CC The invention relates to a nucleic acid (I) comprising a segment of 18
CC bases of chemically pretreated DNA of angiogenesis-associated genes (II)
CC having sequences (ABQ66971-ABQ67178) or their complements. (I), also
CC related oligomers, are used to evaluate the methylation status and/or
CC single-nucleotide polymorphisms, in angiogenesis-related genes, for
CC diagnosis and treatment of eye diseases, proliferative retinopathy,
CC neovascular glaucoma, solid tumours, inflammation, rheumatoid arthritis,
CC diabetic retinopathy, macular degeneration caused by neovascularisation,
CC psoriasis, arteriosclerosis, inflammatory bowel diseases, ulcers and
CC Crohn's disease.
CC Note: The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 11964 BP; 3935 A; 139 C; 2313 G; 5576 T; 1 other;

Query Match 7.6%; Score 70.8; DB 24; Length 11964;
Best Local Similarity 46.3%; Pred. No. 0.00026;
Matches 378; Conservative 0; Mismatches 428; Indels 11; Gaps 4;

Qy 53 ACATTTATAAAATTTCTAAATAAACAGAAATCTGATTTTTAACTACTTACTGCTATTTCA 112
Db 1496 ACTTTAAATAAATTTCTTATTTAAAAAATCCTCCTATATATAATTAAAAATACTAATAAA 1437

Qy 113 TGTATTCTCGTACGAGTAATACATTTAATTAAGGAGAAAAAATGAAAAAGATTAACATC- 171
Db 1436 TTTAACTACATAAAAATAAATACTTATACAATAAAAAAACTANAAACAAAATTATCATCT 1377

Qy 172 -ATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACTTATTTCACCTATCATCA 230
Db 1376 AAACAAAAAACCTAAAAAAACTATTTACCAACCATTACATATAAAATTTAAATTTCCTTA 1317

Qy 231 AAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTATGCATACACTAT 290
Db 1316 ACATAACATAAACTCTTTAATATAAAAAACAATAAACAACCTAATTAAAACATAAACAAA 1257

Qy 291 AACTCCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACACACATTAAACAT 350
Db 1256 AACCATAACTAAAAAAACTCGTAAAAAAATTACTATAAAAACAATAAAAAAATAAAAAAA 1197

Qy 351 TGAT-------ACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAATGTCTT 403
Db 1196 AATTCAACCTCATTCATAATTAACGAAATACAAATCAAAACAAAAATATACCTTTTACTT 1137

Qy 404 ATGAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATTTTATA 463
Db 1136 ATCAAATAAAAAAAAAAATAATTTAATAAAACCCAAATTCTTAATATTATAAATTAATATA 1077

Qy 464 TTCTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAATAATA 523
Db 1076 ACCTTAACGAAAAACATTTTATAAATATCTATCAAAAACTTA-ACATATACAAACAATTT 1018

Qy 524 AAGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAACTTAA 583
Db 1017 AATTCAACAATCTATTAAAATTTATTATATAAATACATTCATATAAATACAAAAATACAT 958

Qy 584 ATAACAAGATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAAAATCA 643
Db 957 ATATATAAATATTATTATTAAAACATTTTTATAACAACCAAAAAAAAAACTAAAAAAAAA 898

Qy 644 GAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAGCGGCA 703
Db 897 AATTAAAACTCATTAATAACAAACTAATTAAATAAACTATATATAAATACAATAAATAAA 838

Qy 704 GAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTCACCAA 763
Db 837 ATATTATTCTTTCATCAAAATAAATAAAATAAATTTATATATACTAATATAAAAAATCTA 778

Qy 764 ATGAAGGGACTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAATATGA 823
Db 777 CTAACCATCATAAATAAAATAAATAAAACAAAAAAAAAAAATACTATAA-TATACAAAAAA 719

Qy 824 AGAACTTTAGTCATTTCGATATTTATCTTGAAAAATA 860
Db 718 AAAAAACTATAAATATACATATTTATATACATATATA 682

RESULT 15
ABQ75107/c
ID ABQ75107 standard; cDNA; 4985 BP.
XX
AC ABQ75107;
XX
DT 01-NOV-2002 (first entry)
XX
DE Anopheles gambiae odourant receptor 2 genomic DNA SEQ ID NO:10.
XX
KW Anopheles gambiae; mosquito; olfactory gene; arrestin 1; pest control;
KW odourant receptor; olfaction; gene; ds.
XX
OS Anopheles gambiae.
XX
PN WO200259274-A2.
XX
PD 01-AUG-2002.
XX
PF 28-JAN-2002; 2002WO-US02549.
XX
PR 26-JAN-2001; 2001US-264649P.
PR 24-JAN-2002; 2002US-0056405.
XX
PA (UYVA-) UNIV VANDERBILT.
XX
PI Zwiebel LJ;
XX
DR WPI; 2002-627421/67.
DR P-PSDB; ABP52835.
XX
PT New mosquito olfaction polypeptides and polynucleotides, useful for
PT mosquito management, i.e. controlling the pest and disease vectors, or
PT for identifying pest control agents -
XX
PS Disclosure; Fig 4a; 96pp; English.

XX
CC The present invention describes a purified Anopheles gambiae olfaction
CC polypeptide comprising a 383, 394, 380, 411, 412, 391, 157 or 401 residue
CC amino acid sequence (see ABP52833 to ABP52840) (S1), a conservatively
CC modified amino acid sequence of them, or a sequence of (S1) with at least
CC 20 consecutive residues. Also described: (1) an isolated polynucleotide
CC comprising: (a) a nucleotide sequence encoding the purified Anopheles
CC gambiae olfaction polypeptide; or (b) a nucleotide sequence that
CC hybridises under stringent conditions to a hybridisation probe comprising
CC a 1964, 1239, 1142, 1236, 1194, 1176, 474 or 1206 nucleotide sequence
CC (see ABQ75102 to ABQ75105 and ABQ75110 to ABQ75113) (S2), or its
CC complement; and (2) a method for identifying an agent that binds to
CC mosquito olfaction molecules comprising: (a) providing an isolated
CC mosquito olfaction molecule; (b) contacting a test agent with the
CC isolated mosquito olfaction molecule; and (c) detecting specific binding
CC of the test agent to the isolated mosquito olfaction molecule, where the
CC presence of specific binding identifies the test agent as a mosquito
CC olfaction-binding compound. The mosquito olfaction molecules are useful
CC for mosquito management, i.e. controlling this pest and disease vector.
CC A method from the present invention of screening for substances that
CC modulate arrestin-odourant receptor interaction is useful for identifying
CC pest control agents. The present sequence represents Anopheles gambiae
CC odourant receptor 2 genomic DNA from the present invention.
CC N.B. The features given in figure 4a are tentative and do not directly
CC encode SEQ ID NO:6 (ABP52835).
XX
SQ Sequence 4985 BP; 1319 A; 1058 C; 990 G; 1618 T; 0 other;

Query Match 7.4%; Score 69.4; DB 24; Length 4985;
Best Local Similarity 44.0%; Pred. No. 0.00045;
Matches 339; Conservative 0; Mismatches 431; Indels 1; Gaps 1;

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Qy        99 TTACTGCTATTTCATGTATTCTCGTACGAGTAATACATTTAATTAAGGAGAAAAAATGAA 158
             ||| |  | |||  | |    |  |   |  | || |    |  ||  |  || ||| |
Db      3109 TTATTATTTTTTATTATGGATTACTGGAATAATTAGAGAATAAAAAAAAACAATAATAAT 3050

Qy       159 AAAGATTAACATCATCAAAATAGTTTTCATAATTACAGTCATACTGATTTCTACTTATTT 218
             ||| | ||| |  |  || |       ||  | ||    ||     |     | | ||
Db      3049 AAACAATAATAAGAATAACAACAACAACAATAATAAGAACAACAACAACAACAATAATAA 2990

Qy       219 CACCTATCATCAAAGTGACTCTAAGAAAGACATTTCGAATGTTAAAAGTGATTTACTTTA 278
              |   || || | |    |    || ||  | | |   |||   || ||  ||     | |
Db      2989 GAATAATAATAATAACAATAGCAATAATAAGAATAATAATAACAATAGCAATAATAATAA 2930

Qy       279 TGCATACACTATAACTCCTTATGATTATAAAGATTGCAGGGTAAATTTTTCAACGACACA 338
             |    | | ||  | |  | || || ||||  ||    |    ||| |  | |     | |
Db      2929 TAATAATAATAATAATAATAATAATAATAATAATAATAAAAAAAAATAATTATAATAAGA 2870

Qy       339 CACATTAAACATTGATACTCAAAAATATAGAGGGAAAGACTATTATATTAGTTCCGAAAT 398
             | | |     |     || | || | |    |  | || ||       |   ||
Db      2869 ATAGTAATAATAATAATAATAATATTAAAAATAATATTAATAATAATAATAATAATAATA 2810

Qy       399 GTCTTATGAGGCCTCTCAAAAATTTAAACGAGATGATCATGTAGATGTTTTTGGATTATT 458
              | || ||    |   || |||   ||  | | |  |   | |    |    || ||
Db      2809 ATAATAAGAATAATAATAATAATAATAATAATAATAATAATAATAATAATAATCATA 2750

Qy       459 TTATATTCTTAATTCTCACACCGGTGAGTACATCTATGGAGGAATTACGCCTGCTCAAAA 518
             || | |  | ||| | | |    ||  ||    |   | ||| |      | | ||
Db      2749 ATAAAATTATTATTATGATAATAATGTATAATAATGAATAACAATAATAATAATTAATAA 2690

Qy       519 TAATAAAGTAAATCATAAATTATTGGGAAATCTATTTATTTCGGGAGAATCTCAACAGAA 578
             ||||||| ||| | || ||| ||    ||   || | |||       |  | | |  | ||
Db      2689 TAATAAATTAATTAATTAATAATAAATAATAATAATTATTATTG-TTATAATAATAA 2631

Qy       579 CTTAAATAACAAGATTATTCTAGAAAAGGATATCGTAACTTTCCAGGAAATTGACTTTAA 638
              |||||  || | || |    | ||  |||     | |    |  | | | |   |||
Db      2630 TAATAATAATAATAATAATAATAATCATAATTATAATAATAATAATAATAATAATAA 2571

Qy       639 AATCAGAAAATACCTTATGGATAATTATAAAATTTATGACGCTACTTCTCCTTATGTAAG 698
             |  |  ||  |   ||   ||||| |||| | | || |   || |  |  | ||   |
Db      2570 TAATAATAATAATAATAATAATAATAATAATAATAATAAAAGTAATAATTATAATAATAA 2511

Qy       699 CGGCAGAATCGAAATTGGCACAAAAGATGGGAAACATGAGCAAATAGACTTATTTGACTC 758
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Db      2510 TAGTAATAATAATAATAATAATAATATTAATAATAATAATAATAATAATAATAATAA 2451

Qy       759 ACCAAATGAAGGGACTAGATCAGATATTTTTGCAAAATATAAAGATAATAGAATTATCAA 818
              ||| |      ||      ||| |  |   ||  ||||  |||||| | ||  ||
Db      2450 TAATAATAATAATTATAATAATAATAATAATAATAATAATAATAATAATAATAATAA 2391

Qy       819 TATGAAGAACTTTAGTCATTTCGATATTTATCTTGAAAAATAATTCATCAT 869
             ||  || ||   || | ||    ||| | ||  | | ||  |||||   ||
Db      2390 TAATAATAATAATAATAATAATAATAATAATAATAATAATAAATTCTGTAT 2340
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Search completed: August 28, 2003, 01:15:26
Job time : 312 secs